

DESIGN CRITERIA

DESIGN FLOW

2 TRAINS	MAXIMUM MONTH (MMF) = 0.195 MGD PEAK DAY FLOW = 0.3 MGD PEAK HOUR = 0.59 MGD AVERAGE ANNUAL = 0.15 MGD
4 TRAINS (FUTURE)	MAXIMUM MONTH (MMF) = 0.39 MGD PEAK DAY FLOW = 0.6 MGD PEAK HOUR = 1.15 MGD AVERAGE ANNUAL = 0.30 MGD

DESIGN LOAD (MAXIMUM MONTH FLOW)

2 TRAINS	BOD = 1,000 LBS/DAY TSS = 1,000 LBS/DAY TKN = 135 LBS/DAY
4 TRAINS (FUTURE)	BOD = 2,000 LBS/DAY TSS = 2,000 LBS/DAY TKN = 270 LBS/DAY

FLOW MEASUREMENT

INFLUENT

TYPE	PARSHALL FLUME
SIZE	3 INCH

EFFLUENT

TYPE	MAG METER (3 DUTY)
SIZE	4 INCH

DRUM SCREEN W/ INTEGRATED WASHER COMPACTOR

TYPE	2 MM PERFORATED, IN CHANNEL
NUMBER	2 (1 DUTY, 1 STANDBY)
CAPACITY (EA)	1.5 MGD
HP	2

GRIT REMOVAL

— PHASE 2 INSTALLATION

FUTURE

TYPE	VORTEX GRIT TANK
CAPACITY	1.5 MGD
DIAMETER	7 FEET
REMOVAL	95% > 50 MESH 85% > 70 MESH 65% > 100 MESH
GRIT PUMP	SELF PRIMING
CAPACITY	220 GPM @ 25 FT.
HP	5
MIXER	PROPELLER TYPE

GRIT CLASSIFIER — PHASE 2 INSTALLATION

FUTURE

TYPE	VORTEX W/INCLINED SCREW
NUMBER	1
CAPACITY	54 CU FT/HR
HP	0.5

INFLUENT PUMP STATION

TYPE	SUBMERSIBLE SEWAGE
NUMBER	3 (2 DUTY, 1 FUTURE)
HP	5
CAPACITY (EA)	410 GPM @ 25 FT

EQUALIZATION TANK

FUTURE

NUMBER	1
VOLUME	10,600 FT³
SIDE WATER DEPTH	15 FEET

(MBR TRAIN 3 & 4 TANKS TO SERVE AS EQUALIZATION TANK FOR PHASE 1)

ANOXIC TANKS

NUMBER	4 (TWO WITH EQUIPMENT)
VOLUME (EA)	4,371 FT³
SIDE WATER DEPTH	12 FEET
MLSS CONCEN.	9,429 MG/L
MIXERS	
NUMBER	2
HP (EA)	2.3
FEED FORWARD PUMPS	
NUMBER	2/1 (2 DUTY, 1 STANDBY)
CAPACITY (EA)	474 GPM
HP (EA)	5.5

AERATION TANKS

NUMBER	4 (TWO WITH EQUIPMENT)
VOLUME (EA)	4,437 FT³
SIDE WATER DEPTH	15 FEET
MLSS CONCEN.	9,429 MG/L
MIXERS	2
BLOWERS	
NUMBER	3 (2 DUTY, 1 STANDBY)
CAPACITY (EA)	489 SCFM
HP (EA)	30

MEMBRANE TANKS

NUMBER	4 (2 WITH MEMBRANES)
VOLUME (EA)	3,330 FT³
SIDE WATER DEPTH	14 FEET
MLSS CONCEN.	11,010 MG/L
CASSETTES	4/TANK
MBR BLOWERS	
NUMBER	2
CAPACITY (EA)	455 SCFM
HP (EA)	20
PERMEATE PUMPS	
NUMBER	3 (2 DUTY, 1 STANDBY)
CAPACITY (EA)	227 GPM
HP (EA)	10

ALKALINITY CHEMICAL SYSTEM

ALKALINITY SYSTEM DRUM SIZE	
INJECTOR CAPACITY	55 GAL 50 GPM
MAGNESIUM HYDROXIDE DRUM SIZE	55 GAL
PUMP CAPACITY	7.5 GPH

SOLIDS STORAGE TANK

NUMBER	1
VOLUME	5,400 FT³
SIDE WATER DEPTH	15
SLUDGE CONCEN.	15,000 MG/L
DETENTION TIME AT ADF PHASE 1	9.6 DAY
SOLIDS PRODUCTION AT ADF	462 LBS/DAY OR 5,031 GPD
BLOWER NUMBER	1
HP	10

WAS PUMPS

NUMBER	1 (1 DUTY)
CAPACITY	150 GPM @ 20 FT
HP	2

WAS LOADING PUMPS

NUMBER	2 (1 DUTY, 1 FUTURE)
CAPACITY	200 GPM @ 25 FT
HP	5

STANDBY GENERATOR

NUMBER	1
CAPACITY	650 KW
POWER FACTOR	0.8

UV DISINFECTION

TYPE	MEDIUM PRESSURE ENCLOSED
NUMBER	1 TRAIN/ 2 BANKS
LAMPS/UNIT	4
KW / LAMP	2
UV TRANSMITTANCE	65%
UV CIRCULATION PUMP HP	0.25

WHEN ONE UV UNIT IS NOT WORKING, SODIUM HYPOCHLORITE IS THE PRIMARY DISINFECTION.

REUSE WATER PUMPS

NUMBER	3
CAPACITY (EA)	40 GPM @ 200'
HP (EA)	5

SODIUM HYPOCHLORITE DISINFECTION SYSTEM

FEED PUMPS	
NUMBER	3
CAPACITY	20 GPD
DAY TANK	30 GAL

RECLAIMED WATER TANK

VOLUME	150,000 GALLONS
DIAMETER	30 FT
SIDE WATER DEPTH	30 FT

ODOR CONTROL SYSTEM HEADWORKS (FUTURE)

TYPE	DRY PACKED MEDIA
SIZE	138"L x 60"W x 88"H
CAPACITY	2,000 CFM
CARBON MEDIA DEPTH	48 INCHES
PERMAGANTE DEPTH	12 INCHES
NO. OF FANS	1
HP (EA)	3
AIR EXCHANGES PROVIDED PER HOUR	8

WELL INJECTION PUMPS

NUMBER	4
CAPACITY TOTAL	370 GPM
HP (EA)	7.5
HYDRO PNEUMATIC TANK	
NUMBER	2
VOLUME (EA)	260 GALLONS

INJECTION WELLS

NUMBER	7
DEPTH	140' (VARIES)



ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME	PS7367002G-3
JOB No.	216-7367-002
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PROJECT NAME

WATER RECLAMATION PLANT

COWLITZ RESERVATION DEVELOPMENT

DESIGN CRITERIA AND DATA

DRAWING NO.
3 OF 176

G3

DATE: Jan 28, 2016 - 12:44pm
PLOTED BY: G3/maas
IMAGES: AM-sig |
XREFS: PMX 22X34 Puyallup I AM-PE

REVISIONS	DATE	BY	DESIGNED
			A. MAAS
			DRAWN K. TAYLOR
			CHECKED M. OLLIVANT
			APPROVED B. BUNKER